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cont.

wherein an insulating film is provided on the light-cutting film and a plurality of transparent electrodes are further provided on the insulating film, the light-cutting film has the separation slit for dividing the light-cutting film into a plurality of portions at the slightly inner position from the portion which is superposed with at least sealing member, further the separation slit is provided to the light-cutting film for further dividing a part of the separated light-cutting film.

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22. (New) A liquid crystal device having dummy electrodes which are opposite to a drive electrode used for an image and arranged along an elongated direction of a non-image electrode, the dummy electrodes being separated by a plurality of slits in the direction across the elongated direction, so that leakage current flowing in the dummy electrodes is cut off.

#### REMARKS

In response to the above Office Action, enclosed are proposed corrections to Figs. 5-10 and 19-24 labeling them as PRIOR ART. Also enclosed are proposed corrections in red to Figs. 1, 9, 12(a-c), 14(a-c), 16(a-c), 18(a-b), 20(a-c), 21(a-b), and 22(a-b) to comply with the objection to the drawings set forth in Form PTO 948. Conforming amendments have been made to the specification. Finally, drawing pages 19/20 and 20/20 have been canceled. Formal correction will be made upon allowance of the claims.

In response to the rejection of claims 10 and 11 under § 112, claim 10 has been amended to provide antecedent basis for the insulating film and to clarify this element of the claim. The "insulating film" of claim 10 is the element 80 in Fig. 2. See page 13, lines 17-18.

Regarding the rejection of claims 5, 7, and 12 and their dependent claims under § 112 second paragraph, page 28, line 9 has been amended to delete the word "peripheral" to avoid any confusion.

Regarding the rejection of claims 1, 3 and 4 for being anticipated by Sato, claim 1 has been amended to include the subject matter of claim 2 and claims 3 and 4 amended to delete reference to claim 2. Since the Examiner indicated that claim 2 would be allowable if rewritten in independent form, it is believed claims 1, 3, and 4 are no longer anticipated by this reference and its withdrawal as a ground of rejection of the claims is requested.

Regarding claim 20 and Sato, this claim has been canceled and replaced by new claim 22 which it is believed is not anticipated by this reference.

Finally, regarding the rejection of claim 21 for being anticipated by Yanagisawa, this claim has been canceled.

It is believed claims 1, 3-19, and 22 are now in condition for allowance and such action is therefore requested.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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**APPENDIX TO AMENDMENT OF OCTOBER 9, 2001**

**Version with Markings to Show Changes Made**

Amendments to the Specification

Page 6, replace the paragraph beginning on line 10 with the following amended paragraph:

Figure 2 is a detailed structural view along [B-B] 2-2 line of Fig. 1.

Page 6, replace the paragraph beginning on line 26 with the following amended paragraph:

Figure 10 is a view for explaining problems at the structure of Fig. 9, and a detailed cross-sectional view along [A-A] 10-10 line in Fig. 9.

Page 7, replace the paragraph beginning on line 3 with the following amended paragraph:

Figures 14(a), 14(b) and 14(c) show partial structures of a lower glass substrate 101 shown in Fig. 13, Fig. 14(a) is an upper view, Fig. 14(b) is a cross-sectional view along [A-A] 14(b)-14(b) line, and Fig. 14(c) is a cross-sectional view along [B-B] 14(c)-14(c) line.

Page 7, replace the paragraph beginning on line 10 with the following amended paragraph:

Figures 16(a), 16(b) and 16(c) show structures of an upper glass substrate 101 shown in Fig. 14, Fig. 16(a) is an upper view, Fig. 16(b) is a cross-sectional view along

[A-A] 16(b)-16(b) line, and Fig. 16(c) is a cross-sectional view along [B-B] 16(c)-16(c) line.

Page 12, replace the paragraph beginning on line 7 with the following amended paragraph:

Figure 1 is an essential plan view of the dummy electrode according to an embodiment of the present invention, Figure 2 is a detailed structural view along [B-B] 2-2 line in Fig. 1, Figure 3 is an essential-exploded and perspective view of the first invention, and Figure 4 is an exploded perspective view for explaining the whole of the first invention.

Page 18, replace the paragraph beginning on line 25 with the following amended paragraph:

However, when the size of the light-cutting film 104 is set sufficiently smaller than the size of the sealing member 105, as shown in Figs. 21(a) and 21(b), there is a light-transmitting area 105(b), in which the light is not cut off, in the lower portion of the sealing member 105. The light transmitted through the light-transmitting area 105b is scattered and input to the image area so that the image quality of the liquid crystal apparatus deteriorates. In this case, Figure 21 is a structural and modified view of the liquid crystal apparatus shown in Fig. 20, (a) is an essential upper view for explanation, and (b) is a [A-A] (21b)-21(b) cross-sectional view in Fig. [20(a)] 21a(a). The upper glass substrate, etc., is omitted in these figures.

Page 19, replace the paragraph beginning on line 8 with the following amended paragraph:

Figures 22(a) and 22(b) are structural views regarding the lower glass substrate 101 according to one example of the conventional liquid crystal apparatus, (a) is an upper view, and (b) is an [A-A] 22(b)-22(b) cross-sectional view in Fig. 20(a). <sup>22(a)</sup> In this case, the structure of the upper glass substrate and the sealing member used in this liquid crystal liquid apparatus is the same structure as the upper glass substrate 111 and the sealing member 105 shown in Fig. 19.

Page 26, replace the paragraph beginning on line 30 with the following amended paragraph:

Below, the embodiment of the second invention will be explained with reference to the drawings. This embodiment relates to the liquid crystal apparatus in which the light-cutting film is provided to the transparent substrate having a plurality of common electrodes in a pair of the upper and lower transparent substrates. Figure 14 shows the structure of lower glass substrate 101 as one example of the above liquid crystal apparatus, (a) is an upper view, (b) is an [A-A] 14(b)-14(b) cross-sectional view of (a), and (c) is a [B-B] 14(c)-14(c) cross-sectional view of (a). In this case, the structures of the upper glass substrate and the sealing member used in this embodiment are the same structures as the upper glass 111 and the sealing member 105 shown in Fig. 11.

Page 28, replace the paragraph beginning on line 5 with the following amended paragraph:

For the area of the liquid crystal elements, the light can be transmitted through only the area superposed with the window 109 provided to the light-cutting film 104, and these areas become the substantial image areas. Since the separate slits 116 and 117 are arranged to the [peripheral] portion apart from the image area, and since the width

of the separation slit becomes 30  $\mu\text{m}$ , the bad influence to the image quality due to the unnecessary light transmitting through these areas can be negligible. Accordingly, in this example, the transmission of the unnecessary light can be sufficiently obstructed, and it is possible to obtain the clear matrix-like image based on the image signal.

Page 29, replace the paragraph beginning on line 13 with the following amended paragraph:

Below, another embodiment according to the second invention will be explained with reference to the drawings, and a modified example of the liquid crystal apparatus shown in Fig. 15 will be explained below. Figure 16 is a structural view of the lower glass substrate 101 according to the embodiment of the present invention, (a) is an upper view, (b) is an [A-A] 16(b)-16(b) cross-sectional view of (a), and (c) is a [B-B] 16(c)-16(c) cross-sectional view of (a). As shown in Fig. 16, the separation slit 116 is provided linearly on the light-cutting film 104 formed on the lower glass substrate 101, and elongated to the little shifted portion to the inside from the left side of the drawing in the bonding area 104c (i.e., the range surrounded by the chain-dotted line) in which the light-cutting film 104 is superposed with the sealing member 105. Further, the elongated separation slit 116 is provided so as to reach the upper and lower and surface of the light-cutting film 104 across the upper and lower side of the drawing of the bonding area 104c so that the light-cutting film can be separated to the left portion 104r and the right portion 104l. Another portion is the same structure as the lower glass substrate 101 shown in Fig. 14.

### Amendments to the Claims

1. (Amended) A liquid crystal apparatus with leak current preventing function, comprising:
  - first and second transparent substrates provided opposite to each other;
  - first and second transparent electrodes for image, each formed on an opposite inner surface of the first and second transparent substrates;
  - a sealing member provided between the first and second transparent substrates for providing a liquid crystal injecting area and forming a gap in order to seal the liquid crystal therebetween;
  - a plurality of conductive particles included dispersedly within the sealing member;
  - a non-pixel electrode formed on position covered by the sealing member between the first and second transparent substrates; and
  - a dummy electrode formed oppositely to the non-pixel electrode in the position in which the first and second transparent substrates are covered by the sealing member;wherein the dummy electrode is divided by a plurality of slits, and the non-pixel electrode is a lead electrode for drive.
3. (Amended) A liquid crystal apparatus with a leak current preventing function as claimed in claim 1 [or 2], wherein a width of each slit for dividing the dummy electrode is set to a value larger than a diameter of each of the conductive particles.

4. (Amended) A liquid crystal apparatus with leak current preventing function as claimed in claim 1 [or 2], wherein the dummy electrode is provided in parallel to and along a side of the sealing member.

10. (Amended) A liquid crystal apparatus with leak current preventing function, comprising:

first and second transparent substrates provided opposite to each other;

first and second transparent electrodes for image, each formed on an opposite inner surface of the first and second transparent substrates;

a sealing member provided between the first and second transparent substrates for providing a liquid crystal injecting area and forming a gap in order to seal the liquid crystal therebetween; and

a conductive light-cutting film provided to at least one of the first and second transparent substrates for cutting off unnecessary light at the image area having a plurality of transparent electrodes and peripheral portion of the image area;

wherein an insulating film is provided on the light-cutting film and a plurality of transparent electrodes are [formed by superposing them through] further provided on the insulating film, the light-cutting film has the separation slit for dividing the light-cutting film into a plurality of portions at the slightly inner position from the portion which is superposed with at least sealing member, further the separation slit is provided to the light-cutting film for further dividing a part of the separated light-cutting film.